

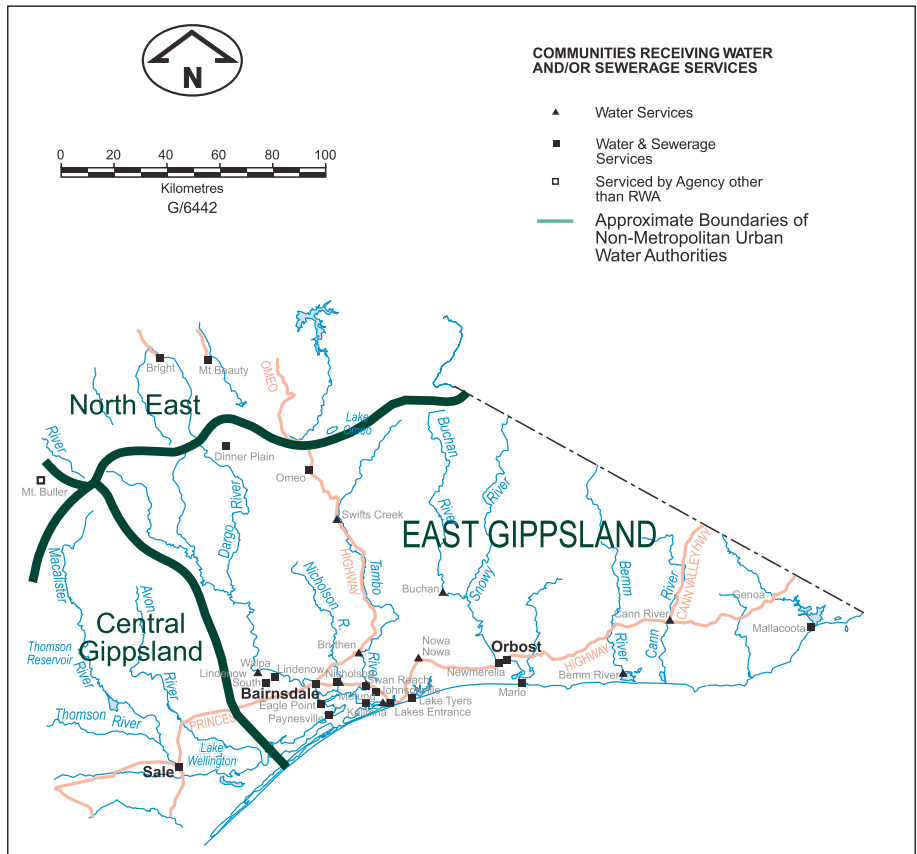
East Gippsland Water

Head office: Bairnsdale

Localities supplied with drinking water: Bairnsdale, Bemm River, Buchan, Cann River, Dinner Plain, Eagle Point – Paynesville, Kalimna, Lindenow, Lindenow South, Mallacoota, Merrangbaur, Metung, Nicholson – Swan Reach, Nowa Nowa, Omeo, Orbost, Sarsfield – Bruthen, Sunlakes – Toorloo and Swifts Creek.

Other communities within these localities that are provided with drinking water include Newlands Arm, Raymond Island, Sarsfield, Johnsonville, Swan Reach, Lakes Entrance, Lake Tyers Beach, Lake Tyers Aboriginal Trust, Marlo and Newmerella.

Population supplied with drinking water: approximately 38,810



Performance against water quality standards

Drinking water supplied in all localities by East Gippsland Water during 2007–08 complied with the water quality standards.

East Gippsland Water advised that they do not use ozone as a water treatment chemical, and as such bromate and formaldehyde were not included as part of their routine testing program. The Dinner Plain supply was not monitored for trihalomethanes and haloacetic acids, as this supply is disinfected with ultraviolet light rather than chlorine-based disinfectants.

Map prepared by, and used with the permission of, Department of Sustainability and Environment

The department gazetted a variation to sampling frequency for East Gippsland Water for the Bemm River, Buchan, Cann River, Dinner Plain, Lindenow, Lindenow South, Mallacoota, Nowa Nowa, Omeo, Orbost and Swifts Creek water sampling localities. The variation was made under regulation 11 of the Regulations and resulted in one sample being foregone over Christmas 2007 for *Escherichia coli* and turbidity for these localities.

Other water quality issues of potential health significance

The supplies to Bemm River, Nowa Nowa and Swifts Creek have previously been disinfected with chlorine dioxide and were consequently tested for chlorite, a by-product of this type of disinfection. Chlorite levels in the Nowa Nowa and Swifts Creek supplies exceeded the health-related guideline value of 0.3 mg/L on several occasions in 2007.

East Gippsland Water acted to minimise production of chlorite, without compromising the effectiveness of disinfection. These actions resolved the undertakings for each of these three localities that were created prior to the reporting period.

Nowa Nowa now receives higher quality water sourced from the Mitchell River. This water is pumped through a pipeline from Toorloo Storage Basin at Lakes Entrance. The Boggy Creek water supply for Nowa Nowa was decommissioned in November 2007.

Water treatment plants capable of treating the variable quality source water at Swifts Creek and Bemm River were constructed, eliminating the use of chlorine dioxide as a disinfectant. Conversions to sodium hypochlorite disinfection at Bemm River and Swifts Creek were completed in August and December 2007 respectively.

During 2006–07 East Gippsland Water commenced construction of a water treatment plant at Buchan, to resolve the undertaking in relation to potential turbidity non-compliance for this supply. The new treatment plant became operational early in the 2007–08 period.

Apart from the chlorite detections identified above, all other parameters measured by East Gippsland Water as part of its drinking water quality monitoring program satisfied the relevant health-related guideline values set out in the 2004 *Australian Drinking Water Guidelines* during the reporting period.

For detailed water quality data, including data about other aesthetic characteristics of the drinking water and details on East Gippsland Water's undertakings, please also refer to East Gippsland Water's annual drinking water quality report for 2007–08.

Risk management plan audit

East Gippsland Water's risk management plan audit was completed at the end of July 2008, hence will be reported on in the 2008–09 annual report.

Water quality notifications

During 2007–08 the following water quality notifications were made to the department:

Date	Supply	Issue	Action(s)
November 2007	Bairnsdale	Detection of <i>Escherichia coli</i> at Mt Lookout Tank outlet	Heavy rain may have washed contaminants into the tank via small holes in the tank's roof. These holes have now been sealed. The tank was the only area contaminated and is scheduled to be decommissioned.
December 2007	Cann River	Potential non-disinfection of water.	Treatment plant was incapacitated due to a lightning strike. Chlorine residuals were maintained throughout the system. Water was supplied from a fully treated and disinfected clear water storage and the system flushed.
January 2008	Lindenow	Detection of <i>Escherichia coli</i> at entry point	Contamination cause unknown. Re-samples returned compliant results.
April 2008	Bairnsdale	Detection of <i>Escherichia coli</i> at Aerodrome Tank	Contamination cause unknown. Tank dosed with chlorine. Re-samples returned compliant results.
June 2008	Sunlakes - Toorloo	Detection of <i>Escherichia coli</i> at entry point	Contamination cause unknown. Re-samples returned compliant results.

For further information on the water quality notifications listed above, please refer to East Gippsland Water's annual drinking water quality report for 2007-08.

Customer complaints related to water quality

A summary of the customer complaints related to water quality that were recorded by East Gippsland Water during 2007–08 is provided in the table below.

Complaint Category	Number of water quality complaints	Number of complaints per 100 customers*
Coloured water	6	0.03
Dirty water	8	0.04
Taste / odour	9	0.04
Air in water	1	<0.01
Water quality – other [‡]	3	0.01
Weed	3	0.01

* Based on number of water supply connections

‡ Customer complaints relating to alleged illness are included in this category

The number of water quality complaints was similar to that for 2006–07 and remained low, with the majority in relation to coloured water, dirty water and taste and odour.

East Gippsland Water advised that the cause for complaints in relation to dirty water ranged from ingress of dirt during mains repairs or works through to internal plumbing problems (eg. rust flakes from galvanised iron services). Taste and odour complaints were either attributed to chlorine, with variability in customer tolerance to levels of chlorine in drinking water and fluctuations in usage and water flow during holiday periods, or earthy musty taste and odour caused by the presence of algae in the unfiltered source water supply.

Gippsland Water

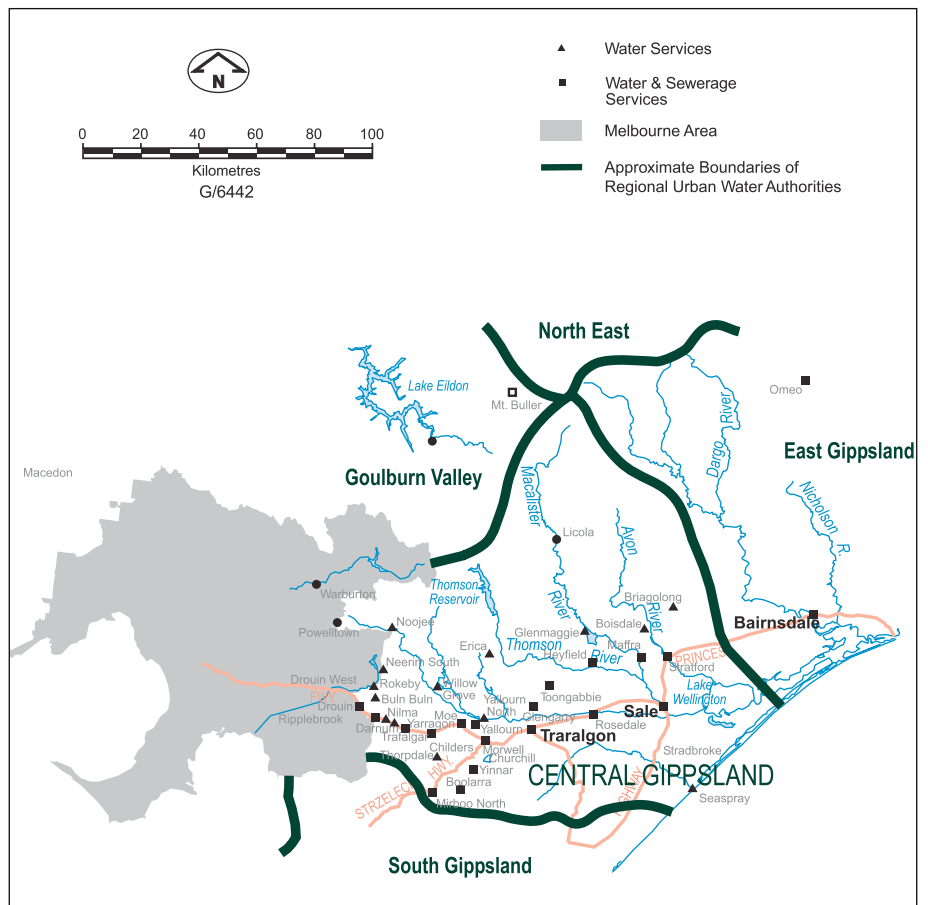
Head office: Traralgon

Localities supplied with drinking water: Boisdale, Boolarra, Briagolong, Churchill, Coongulla / Glenmaggie, Cowwarr, Drouin, Erica, Heyfield, Jumbuk, Maffra, Mirboo North, Moe, Morwell, Neerim South, Newborough, Noojee, Rawson, Rokeby / Buln Buln, Rosedale, Sale / Wurruk, Seaspray, Stratford, Thorpdale, Toongabbie, Trafalgar, Traralgon, Traralgon South and Hazelwood North, Tyers / Glengarry, Warragul*, Warragul South, Willow Grove, Yallourn North, Yarragon and Yinnar.

Drinking water supplied to Boisdale, Churchill, Drouin, Jumbuk, Maffra, Moe, Morwell, Newborough, Rokeby / Buln Buln, Sale / Wurruk, Stratford, Trafalgar, Traralgon, Traralgon South, Hazelwood North, Warragul*, Warragul South, Yallourn North, Yarragon and Yinnar is fluoridated.

* The Warragul locality also includes supplies to Darnum, Nilma and Drouin East.

Population supplied with drinking water: approximately 109,510



Performance against water quality standards

Drinking water supplied in all localities by Gippsland Water during 2007–08 complied with the water quality standards, except as noted in the table below.

Parameter	Localities not complying with water quality standard
Trihalomethanes	Seaspray
Aluminium	Erica, Rawson, Traralgon

During March, April and May 2008, Seaspray recorded elevated trihalomethane levels, caused by the increased natural organic content of the raw water supply and the need for increased chlorine dosing to maintain microbiological compliance. Gippsland Water advised they increased flushing in Seaspray, aerated the treated water to remove the volatile organics and added granular activated carbon in the filters, to control this issue.

For Erica and Rawson, elevated aluminium results were recorded for each of these localities in August 2007 and May 2008 respectively. In both cases Gippsland Water investigated the result and could not identify a cause. All follow-up monitoring samples complied with the aluminium standard. For Traralgon, one sample with an elevated aluminium level was recorded in January 2008 due to a water treatment plant malfunction caused by a faulty power supply on the chemical dosing system. These results were reported to the department, as required by section 18 of the Act.

Gippsland Water advised that they do not use ozone as a water treatment chemical, and bromate and formaldehyde were not included as part of their routine testing program.

Other water quality issues of potential health significance

All other parameters measured by Gippsland Water, as part of its drinking water quality monitoring program, satisfied the relevant health guideline values set out in the 2004 *Australian Drinking Water Guidelines* during the reporting period. Gippsland Water advised that monitoring for other parameters such as pesticides and protozoan organisms is conducted as risks are identified in the source water catchment areas.

For detailed water quality data, including data about other aesthetic characteristics of the water, please refer to Gippsland Water's annual water quality report for 2007–08.

Risk management plan audit

Gippsland Water's risk management plan audit was completed in June 2008. The auditor found that Gippsland Water complied with the obligations of the Act, with several opportunities for improvement highlighted. These improvement opportunities, along with Gippsland Water's response, are detailed below.

Continuous Improvement Opportunity	Proposed Action
Remove inconsistencies between the plan, alert limit tables and alarm limits and link contact details within the plan to the intranet.	Note will be added to risk management plan that alert limits are variable and upper limits will be inserted and contact details linked to intranet information.
Develop summarised flow diagrams from catchment to consumer clearly showing Gippsland Water's responsibility.	Risk management plan will include updated system schematics.
Expand the documentation on areas of management of catchment water quality risks and how the treatment meets the challenges faced.	Risk management plan will be updated on monitoring programs for pollution in catchments and liaison with key stakeholders, and will include a table of treatment process steps linking to hazard management.
Formalise communication procedures with bulk water suppliers in relation to water quality management	Risk management plan updated to reflect the communications and meetings with key stakeholders.
Noting water quality parameters that are not considered a significant risk in plans, and explaining why.	Risk management plan will be reviewed and updated to discuss monitoring for parameters that are a less significant risk.
Maintain accurate dates and currency information on quality critical documentation.	Risk management plan to be reviewed to ensure that the most recent water quality compliance statistics and customer complaints are referenced and kept updated.

The audit certificate is included in Gippsland Water's annual drinking water quality report for 2007-08.

Water quality notifications

During 2007-08 the following water quality notifications were made to the department:

Date	Supply	Issue	Action(s)
November 2007	Moe, Newborough, Yallourn North, Trafalgar, Yarragon	Increase in turbidity and aluminium due to heavy rainfall event.	Malfunction at treatment plant caused by heavy rainfall event. Malfunction rectified and the water treatment plant resumed operation.
March - May 2008	Seaspray	Elevated trihalomethanes in drinking water.	See text under the heading " <i>Performance against water quality standards</i> ".

In addition to the above notifications Gippsland Water managed a number of issues relating to flooding and blue-green algae blooms. These issues did not require notification to the department under section 22 of the Act, as drinking water supplied to consumers was not affected.

From February to October 2007 the Coongulla / Glenmaggie system was affected by poor source water quality, due to previous bushfires in the Macalister River catchment and heavy rainfall events over winter. Drinking water was supplied from the Heyfield system via mobile tanker into the Coongulla / Glenmaggie system during this time.

Severe flooding in June and July 2007, and November 2007 in the Macalister River had the potential to affect supplies to Maffra, Stratford and Boisdale. Modifications made to the Maffra treatment plant ensured successful treatment of the highly turbid source water.

A blue-green algae bloom in Tarago Reservoir from January to May 2008 necessitated additional treatment steps, such as extended chlorination contact time and granular activated carbon added to filters. Gippsland Water co-ordinated with Melbourne Water, the water storage manager for Tarago Reservoir, and the department, on the treatment and monitoring of the water supply.

For further information on the water quality notifications listed above please refer to Gippsland Water's annual drinking water quality report for 2007-08.

Customer complaints related to water quality

A summary of the customer complaints related to water quality that were recorded by Gippsland Water during 2007/08 is provided in the table below.

Complaint Category	Number of water quality complaints	Number of complaints per 100 customers
Discoloured water	69	0.116
Taste / odour	67	0.113
Blue water	0	0
Air in water	25	0.042
Suspected illness	11	0.019
Other	0	0

The number of complaints remained low, with the highest number of complaints received from the more populous centres of Moe, Morwell, Sale, Traralgon and Warragul, relating to discoloured water and taste and odour.

Goulburn-Murray Water

Head office: Tatura

Goulburn-Murray Water is a water storage manager under the Act and supplies untreated water in bulk to Central Highlands Water, Coliban Water, Goulburn Valley Water, Lower Murray Water and North East Water. This water can either be supplied directly from storages operated by Goulburn-Murray Water, or from rivers supplied from the storages, or from channel systems managed by Goulburn-Murray Water. The water suppliers then treat the water that they receive to drinking standard and distribute the treated water to their customers.

Goulburn-Murray Water does not supply drinking water to any customers but does supply water for irrigation and other rural and stock purposes.



Risk management plan audit

Goulburn-Murray Water's risk management plan audit was completed in June 2008.

The audit found that Goulburn-Murray Water did not comply with the obligations imposed by the Act. The auditor identified six major non-compliances, one minor non-compliance and a number of continuous improvement opportunities. This was predominately due to the lack of information in their risk management plan addressing risks associated with the possible presence of pathogens such as *Cryptosporidium*, *Escherichia coli* and *Giardia* in the untreated water supplied to water suppliers. Goulburn-Murray Water also did not comply on a number of other matters relating to record-keeping.

Map prepared by, and used with the permission of, Department of Sustainability and Environment

Goulburn-Murray Water advised that they have addressed the matters relating to record-keeping. They have also requested that the Department accepts a written undertaking setting out their corrective actions in response to the more significant audit findings relating to pathogen risks.

The undertaking specifies how Goulburn-Murray Water will work together with the urban water suppliers to manage risks from pathogens in water supplied to the urban water suppliers, with details to be incorporated into their risk management plan. The undertaking was finalised after the end of the reporting period and will be discussed in more detail in the annual report for the 2008/09 reporting period.

The non-compliances, along with Goulburn-Murray Water's response, are detailed below.

Reason for non-compliance	Proposed Action
The risk management plans do not adequately manage the risks arising from pathogens, which were identified as a high and very high risk to the quality of water supplied.	Undertaking as referred to above – actions include co-ordination with and sharing information with urban drinking water suppliers on suitable monitoring programs for pathogens, protocols for handling any high results, the treatment systems in place to manage risks and recording these activities in the risk management plan.
Control measures by urban drinking water suppliers to verify water quality were included as verification measures in the plans but no information about the results had been obtained.	Undertaking and actions as referred to above.
Risk registers, EPA registers and High Level Risk Management Plans had not been reviewed or updated at the indicated frequency and a training schedule had not been developed.	Registers and risk management plans have been updated since the completion of the audit.
The risk management plans do not identify individuals responsible for managing hazards and risks to water quality or their contact details and positions held.	These details have been updated since the completion of the audit.

The audit certificate and more information in relation to the audit undertaking is included in Goulburn-Murray Water's annual water quality report for 2007-08.

Water quality notifications

Goulburn-Murray Water classifies incidents into four categories based on the potential or actual environmental consequence of the incident. During 2007-08 Goulburn-Murray Water recorded a total of 64 environmental incidents, of which 56 incidents occurred in locations that had the potential to affect water supplied to water suppliers for drinking purposes or potentially posed a risk to human health. Goulburn-Murray Water advised that none of these incidents were classed as emergencies under its internal protocols and that each recorded incident was handled using their environmental incident management procedure. The most commonly reported incidents were oil and chemical spills or contaminations, muddy or discoloured water, illegally dumped rubbish and dead fish and other wildlife.

Goulburn-Murray Water advises the department of any blue-green algae blooms that potentially affect public health, either via drinking water or recreation. Lower Murray Water and Central Highlands Water were advised of the more significant blooms, in Lake Boga and Tullaroop Reservoir respectively. The bloom at Lake Boga continued from the previous year and ceased only when the lake dried out in April 2008. These blooms were managed without affecting drinking water supplies. Notification to the department under section 22 of the Act was therefore not required.

Goulburn-Murray Water also, with the assistance of the department, developed a management strategy to ensure that their customers and members of the public are aware that water supplied or managed by Goulburn-Murray Water is untreated and is not suitable for drinking or food preparation.

For further information on the management strategy for non-potable supplies, blue-green algae blooms or environmental incidents, please refer to Goulburn-Murray Water's annual water quality report for 2007-08.